

Implementing the Mercury Chemical Action Plan and Mercury Reduction & Education Act in Washington State



Presentation Overview

- ❑ **MCAP Development Process**
- ❑ **Summary of Findings of MCAP**
- ❑ **MCAP Implementation**
- ❑ **Legislation - *Mercury Reduction & Education Act***
- ❑ **Current Activities**
- ❑ **Role of Department of Health**

MCAP Development Process

2002 Legislative Direction

"...develop a planned strategy for the reduction of mercury from the environment."

- Involve advisory committee in plan development with balanced representation
- Issue draft plan for 60 day public comment
- Finalize plan by end of 2002

Mercury Advisory Committee

❑ Local Government

- King County
- City of Tacoma
- Southwest Clean Air Agency

❑ Public Health

- Whatcom County Health Dept.
- Yakima County Health District
- Inst. Of Neurotoxicology

❑ Community Groups

- Physicians for Social Responsibility
- WashPIRG

❑ Environmental Groups

- People for Puget Sound
- WA Toxics Coalition
- WA Wilderness & Recreation Coalition

❑ Agriculture

- General Agriculture
- Pacific Seafood Processors Assoc.

❑ Business

- WA State Dental Assoc.
- WA State Hospital Assoc.
- Echo Bay Mineral Co.
- Eco-Lights
- Assoc. of WA Businesses
- Transalta Centralia
- WA Funeral Directors Assoc.
- Small Businesses
- Alliance of Automobile Manuf.

Process: 2002 - Completed

- Jan – Mar Invited Dept of Health to “co-author” plan *Draft Background Document*
- March Mercury Advisory Comm created
- April 1st Mercury Advisory Comm mtg. Written comment by Adv. Comm.
- May Gaps in knowledge identified *Preliminary Draft MCAP*
- June 2nd Mercury Advisory Comm mtg
- July-Aug Comment by Adv. Comm. & Ecology & Health Senior Mgmt *MCAP Draft for Public Comment*

Process: 2002 - 2003 Completed

- Sept - Oct 60 day [Sept 10 to Nov 8]
public comment period
Public meetings in Tacoma and
Moses Lake
- November 3rd Mercury Advisory Comm mtg.
- February 03 *Final Ecology/Health MCAP
released for implementation*
- June 03 *Response to Comments on the
draft MCAP released*

Summary and Findings of MCAP

Goals of the Mercury Chemical Action Plan

- ▣ Virtual elimination (continual reductions) of the use and release of anthropogenic (man-made) mercury in Washington State
- ▣ Minimize human exposure to mercury through better mercury collection, disposal, and management options

Elements of the Mercury Chemical Action Plan

- ❑ Overview of what we know about human-caused sources of mercury in Washington
- ❑ List possible mercury reduction options with recommendations
- ❑ Identify research needs
- ❑ Reduction actions will be staggered based on
 - Resources
 - Knowledge
 - Availability of non-mercury alternatives

Estimated Hg in Products Disposed of in WA Annually

Mercury Products	Estimated lbs. of Hg disposed annually
Fluorescent Lamps	437 - 505
Thermostats	412
Amalgam from Dental Offices	>404
Auto Light Switches	253
Button Cell Batteries	88
Dental Amalgam in Feces & Urine	61
Household Fever Thermometers	11 - 300
Total	1,666 – 2,023

Estimated Annual Release from Point and Area Sources of Hg in WA

Source	Est. Annual Release (lbs.)	Receiving medium
Distillate Fuel #2	733	Air
Coal-fired power plants	436	Air
Manufacturing	337	Air, Land, Water
POTWs	331	Land
Oil Refineries	125	Air, land, Water
Medical Waste Autoclaves	106	Air, Land
Crematoria	57	Air
Sewage Sludge Incinerators	32	Air
Residual Fuel	29	Air
Municipal Waste Incinerators	18	Air
Gold Mining	0-777	Air, Land, Water
TOTAL	2,180 – 2,957	

State Board Of Health Briefing 12-10-03

Mercury Chemical Action Plan

Conclusions

- ❑ Significant amount of mercury released into WA's environment from disposal of common consumer products (i.e. fluorescent light tubes, thermometers, thermostats).
- ❑ Many WA residents are not aware of products that contain mercury, and are likely to dispose of certain mercury containing products with their garbage.
- ❑ There is a need to educate WA residents about mercury in products and a need to provide clear disposal/recycling/and mercury management options
- ❑ Mercury pollution is a global environmental problem (i.e. many fish consumption advisories, including some here in WA)

Mercury Chemical Action Plan

Conclusions

- Three types of pollution sources and solutions:
 - Local - **Fluorescent lights, thermometers, thermostats**
 - **Solution** – Public awareness and proper disposal options needed
 - Local – **Dental amalgam wastes, medical wastes**
 - **Solution** – Use affordable and available technologies (Amalgam separators) in dental offices, and proper mercury separation practices in medical waste disposal
 - National – **Coal combustion**
 - **Solution** – EPA addressing nationally
 - National – **Need for a “national mercury repository”**
 - **Solution** – Work with ECOS Quicksilver Caucus and EPA on this issue
 - International – **Mining of mercury and other metals**
 - **Solution** – Research/monitoring on amounts of mercury released from mining activities
 - Local, National, & International – **Mercury in certain fish**
 - **Solution** – Local, National, and Global mercury reduction efforts

MCAP Implementation

Key Recommendations in MCAP for Implementation in 03-05

- ❑ Develop MOU with WSDA to encourage installation of amalgam separators and development of BMPs. Use existing rules after two year timeline. (MOU signed and being implemented)
- ❑ Increase fluorescent lamp recycling rate from current 20% to 40% by 2005. (On Hold*)
- ❑ Work with Dept. of General Administration on ensuring state agency compliance with Universal Waste Rule. (On Hold*)
- ❑ Adopt Universal Waste Rule for largest feasible number of mercury-added products. (On Hold*)
- ❑ Work with medical waste facilities and WA State Hospital Association on mercury management and disposal practices. (On Hold*)
- ❑ Work with auto recyclers on implementing mercury-containing product removal practices. (On Hold*)

*State Legislature provided no funding to implement Mercury Chemical Action Plan during 2003-2005 Biennium.

Mercury Chemical Action Plan

Implementation Prior to July 2003

- Worked with local governments and businesses to promote, encourage, and assist in development of:
 - *Expand existing fluorescent light recycling efforts*
 - *Governor's Directive to state agencies to recycle lamps*
 - *Seattle Mariners, Puget Sound Energy, Unico Properties voluntary lamp recycling efforts*
 - *Household mercury fever thermometer collection/recycling programs*
 - *> 50,000 collected by local government collection efforts in February 2003*
 - *Memorandum with state dental association to phase in the installation and use of amalgam separators in state dental offices by 2005*
- Mercury Reduction and Education Act passed Legislature and signed by Governor



Other Activities Related to Mercury and the MCAP

- ❑ Fish tissue and sediments sampled in 20 freshwater lakes around state led Department of Health to issue *statewide fish-consumption advisory for small/largemouth bass in June 2003.*
- ❑ Investigation mercury emissions in landfill gas at several landfills. (conclusions pending)
- ❑ Participated with state hospital association in series of “Mercury Reduction in Hospitals” seminars.

However...no funding provided to implement the MCAP during 03-05 Biennium – Ecology seeking supplemental funding next session.

Legislation

Mercury Reduction & Education Act

2003 Session

Mercury Related Legislation

- **House Bill 1002 – Hg Reduction & Education Act**
 - Requires “Contains Hg” label on fluorescent lamps effective Jan '04
 - Bans sale of Hg containing novelty products, thermometers, manometers, thermostats, vehicle light switch Jan '06
 - Bans use of bulk elemental Hg and Hg compounds in K-12 schools by Jan '06
 - Directs Ecology and Health to educate schools, local governments, businesses & public on proper disposal methods for Hg-added products
 - Directs Ecology to join “multistate clearinghouse”
 - Directs Ecology to petition EPA requesting development of a national mercury repository site

Current Activities

Current Activities

- ❑ **Implementing Mercury Reduction and Education Act**
 - Developing education/outreach strategy with Department of Health
 - Fluorescent lamp labeling requirement effective 01/01/04
 - Joined Interstate Mercury Education and reduction Clearinghouse (IMERC)
 - To send petition letter to EPA regarding need for national mercury repository facility
- ❑ **Implementing MCAP**
 - Voluntary MOU with state dental association to implement BMPs and install amalgam separators by Summer 2005

Role of Department of Health

Why are we concerned?

- Recent studies on *in utero* exposure to methylmercury in fish –
 - Seychelles Islands
 - no effects
 - Faroe Islands and New Zealand
 - developmental neurotoxicity
 - NRC recommendations
 - Iraqi grain study no longer the best from which to derive reference dose
 - EPA should use the Faroe study

What are we doing to protect public health?

- ❑ Fish advisories
 - Focus of OEHA
- ❑ Tuna sampling
 - Environmental health tracking grant
- ❑ Asian and Pacific Islander study
 - EPA grant to study high-end fish consumers
 - Blood and hair analysis

New Developments

- ❑ Mercury Education and Reduction Act
- ❑ *Science* article on differing toxicities of mercury
 - Press coverage
- ❑ Ongoing research on dental amalgams
 - Fact sheet
- ❑ National Fish Advisory Meeting
 - WA tuna data will be presented

What's Next?

□ Evaluation

- Efforts underway to evaluate the effectiveness of fish advisories
- Harvard assessment of EPA mercury advisory

□ Benefits of fish

- More work required to better define the risk/benefit trade-off

Additional Information

Ecology's PBT/Mercury Web Page:

www.mercurymess.org

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